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Good Publications

Futures

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to provide students with information on general career areas and
post-secondary educational opportunities

Ontario University Affairs Dept.



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Introduction

One of the first things you will notice as you go on to high school is the increasing need to think of the future and to plan ahead. You may have to choose options and programs and you will have a chance to talk to guidance counsellors about what you want to do with your life. You live in an exciting century with a tremendous variety of opportunities.

Try to avoid pinning a particular job label on yourself for as long as you can. In the 1970's it is more important to train for a general career area than for a specific job. Besides developing your knowledge and personality, your studies should be teaching you skills and disciplines that may be useful in many jobs in many fields. Flexibility is the word today.

Remember, though, that the more education you have, the more doors are open to your future and the better your chances are in the long run of finding a rewarding and satisfying job. You should also know that in Ontario today, students who need money for university or college can qualify for loans and/or grants through the provincial government.

If you think you know what you want to do, find out what educational qualifications you need. If you want a university degree in engineering or a diploma in technology, for example, find out what high school subjects are desirable for admission into the program you want (usually mathematics and sciences, at least). Apart from the basics, you may be well advised to take as broad a range of subjects as possible. Then, at the end of high school, you will still have a wide range of opportunities, in case you change your mind about engineering. And remember, if you get a degree in engineering, or a diploma in engineering technology, you may still end up working in sales or management, depending upon your abilities and preferences and the job opportunities at the time. That is one example of how flexibility works.

That's why you are better off to think of general fields where there are all sorts of different job possibilities, according to your particular talents. Are you interested in the food and hospitality business? You might become a hospital dietician or a hotel manager. There are opportunities for all types of ability, and you may be better suited to an apprenticeship as a chef, or a diploma program in food service management. The main thing is to pursue your own talents and find out what suits you best.

Counsellors and placement officers advise you to consult them while you are at high school. In this way, when the time comes for you to decide on whether or what you want to study after high school, you will have some clues about general employment trends. As far as specific jobs go, not even the Department of Manpower and Immigration really knows what the job situation will be like when you will be leaving high school - we hope it will be good - to say nothing of the time when you may be completing a post-secondary program. This is another reason why flexibility is becoming more important.



There is no question that some form of post-secondary education should almost certainly improve your chances on the job market as well as help in your personal development. Degrees and diplomas have become a requirement in many more occupations. For example, a university degree will be required for admission to teachers' college by the time you graduate from high school. But beware of the degree hangup. Although higher education is important, no piece of paper is in itself going to provide you with a guaranteed "open sesame" into the career of your dreams. Character and personality are still important. But the most important thing in education is finding out what form of education suits your own abilities best.

Learning, of course, is more than just job training. Knowledge is power – an increased awareness and understanding of yourself and of the world you live in. Finding out what you are good at and learning to do it well are basic to self knowledge. It is just practical common sense to keep your eye at the same time on job possibilities in your field of interest.

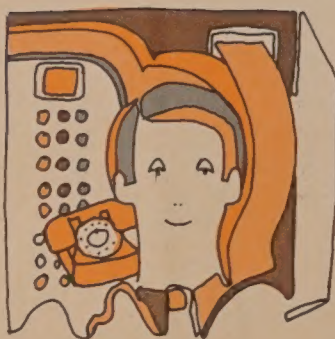
Choosing a career area

Before you consider a general career area, you may wish to look at the wide range of possibilities suggested in *Career Outlook* and *Horizons* and summarized below. Both these publications are published yearly. Reference copies should be available in your school and you can check next year's edition in your high school guidance office. If you aren't interested in furthering your post-secondary education at this time, remember that there are many opportunities available for continuing your education at a later date. Your local university or community college can always provide you with information when you need it.

As we discuss general career areas, you may run across words you don't know. Like anthropology. Or metallurgy. Perhaps it would be useful for your whole class to discuss what these words mean. They may mean much to your future.

We are going to consider general employment areas in terms of school subjects. There are seven such areas, and in many cases they overlap.

Business
Health
Humanities
Science
Engineering
Environment
Social Sciences



Business

There is no enterprise in the world that does not need staff who know how to get things organized and get things done. Business and management are needed in every human activity, whether commercial, social, religious, artistic, industrial or educational – not to mention the business of running a household and raising a family.

Students who have taken business subjects such as typing, accounting, data processing and shorthand may go directly from high school into office work. Or they may choose to take a two or three-year diploma program at a community college to become medical or legal secretaries or business administrators. Or they may take one of a number of shorter courses available.

Students who complete grade 13 may be interested in a university degree program in commerce or business administration. There are also graduate programs at the master's and doctoral levels in such fields as public administration. Accountancy takes at least five years of a work-study program after grade 13, and may take longer if you need a degree before earning a professional accountant's certification.



Health

This category includes the fields of nursing and medicine, as well as lesser known work in such fields as bio-medical engineering technology (working with artificial kidneys and hearts), audiology (dealing with hearing problems), speech therapy, physical and health education, food science, optometry, pharmacy, physiotherapy, and occupational therapy, chiropractic, x-ray tech-

nology and hospital administration. (Ask your teacher what some of these terms mean or check the dictionary). It should be stressed that this is a very popular occupational area, and that there are many more people interested in working in the medical and related fields than there are jobs available. Competition is at its highest for places in medical school, and students who think they want to be doctors should be aware that they need a good secondary school background in maths and sciences as well as an exceptional academic record in the first two years of university. It takes at least seven years after grade 13 to become a doctor in Ontario, including at least two years of pre-medical studies in an undergraduate degree program, four years of medical school and one or two years of internship. Specialists require a further three or four years of residency in teaching hospitals and health sciences centres.

Other university programs in related medical fields such as dentistry, optometry, and veterinary medicine (for animal doctors) also require a high standing in grade 13 subjects and have a limited number of places. Three-year diploma programs in the colleges of applied arts and technology in the para-medical field (medical support services) usually require graduation from fourth year of the five-year secondary school program. Students may be admitted to some two-year diploma programs after grade 12 of a four-year program if they have achieved a high standing.

For those who want to enter nursing – and more young men are now entering this field – there are many different options. Graduation from grade 12 with some science subjects is the minimum requirement. Most nursing schools will give preference to students with higher marks and some schools, including the universities, require grade 13. Lists of schools of nursing may be found in *Horizons*.

Students interested in a career in the health sciences should choose science and mathematics options wherever possible during their high school career, in addition to as wide a range of other subjects as possible.



Humanities

Studies in the humanities or "liberal arts" include history, philosophy, languages and literature. In periods of unemployment, you may hear bitter comments from university graduates in the humanities about the uselessness of their degrees.

"What good is it doing me to know about philosophy, history, English and French literature," moaned a recent graduate, "when all they want to know about me is whether I can type?" But one of the main purposes of higher education is personal and intellectual development, not just training for jobs. Learning other languages and cultures is part of the broader understanding required to cope with some of today's problems. Studies in the humanities can also help you to express yourself clearly and arrange your ideas in a logical way. Flexibility is still the answer. But if you are interested in the humanities, perhaps it would not be such a bad idea to learn how to type as well, since there are lots of essay projects in these courses. University graduates in the liberal arts may also go on to law (another four years), teaching (another year) or library science (another two years).

Programs in the fine and applied arts (such as painting, sculpture, commercial art, film and theatre) are becoming more popular, although it should be stressed that an education in a discipline such as music or theatre or graphics does not guarantee a glamorous career in these highly competitive fields. Programs in the arts are available at both the community college and university level, as well as at the Ontario College of Art.

The applied arts now include communications, which embraces all the popular media — journalism, advertising, radio and TV arts and film-making. In these areas, the ability to communicate ideas and feelings clearly to others is important. Specialized training may be obtained at a university, community college or at Ryerson Polytechnical Institute. As in other fields, there may be more graduates than there are jobs but there are usually opportunities for the really talented students.



Sciences

Students interested in mathematics and the sciences are well advised to get a good general science background in high school. Your science subjects should be supplemented, of course, by options in the social sciences. The science disciplines are useful in many different fields, but students should be aware of the need for flexibility. There is no reason, for example, why a graduate in science subjects could not work in administration or sales or in some other related function of a science-oriented firm.

There is a continuing need for good teachers of science and mathematics, although the demand is much less than it was a few years ago. Opportunities in Canada for scientific research, even after a graduate degree, are limited at present, although some gifted graduates find employment with the National Research Council or with industrial firms.

Nobody has any doubt that the computer is here to stay, and with it a great variety of job possibilities. The basic discipline is mathematics. There are training programs at all levels for work with computers, including computer programming in many high schools, two and three-year diploma programs at community colleges and advanced university degrees in computer sciences. Many companies also hire personnel with a promising background and give on-the-job training. If you have computer skills, there is no limit to the range of possible employers.



Engineering

Engineering has been concerned with applying the laws of science, with producing the goods people buy, with building highways and power systems, with making factories run efficiently. These interests will always be the responsibility of professional engineers. New challenges are being added. What one construction engineer or oil company or modern factory does can affect the way people live. So engineers are learning to manage scientific knowledge, to examine long-term effects for the good of the community rather than short-term advantage for one person or one industry. Another advance has been the use of the computer in the complex and detailed calculations of the engineer.

There are many kinds of engineering — mechanical, electrical, agricultural, chemical, mining, to mention a few. Professional engineers require a four-year university degree after grade 13. The community colleges and Ryerson Polytechnical Institute offer two and three-year programs in various branches of engineering technology which train the high school graduate for work in engineering and industrial projects.

Anyone interested in engineering should take as many science and mathematics subjects as he can in high school. There are exciting possibilities ranging from subway construction to moonshots and the able graduate can be involved in some of the most challenging technological changes of our century.



Environment

This is the field concerned with the changing earth, including the land, the seas and the atmosphere. It includes geography, geology, geophysics, metallurgy and oceanography. In the related disciplines of agriculture, architecture, forestry, landscape architecture, urban and regional planning, one also learns how to order and control the environment. Programs in these subjects are usually found at the university level. The community colleges offer programs in the technology of agriculture, forestry, natural gas and petroleum exploration and water and air resources.

If you are interested in studies of environmental problems such as pollution or population control, background knowledge in the physical sciences, the social sciences and mathematics will be useful.



Social sciences

If you like to work with people and help people, chances are this is the area you will consider first. The social sciences at the undergraduate university level include subjects such as psychology (the science of human behaviour), anthropology (the science of man and his evolution), economics, linguistics (the study of the structure of languages), political science and sociology (the study of human society). Graduate training at the master's or doctoral level is necessary if you want to be a psychologist or a social worker. The community colleges offer programs in community planning, early childhood education, recreation leadership and social welfare. The number of available places in these courses is usually limited.

Personnel work, such as testing and placement of employees, may require a university program in psychology or business administration and usually some years of practical experience in the work force as well.

A word of warning: psychology and sociology are becoming increasingly attractive to sensitive students concerned with people's problems. While these studies are useful to the individual, it cannot be too strongly emphasized that if you want to work in these fields you will need professional qualifications. A bachelor's degree in sociology or psychology is rarely enough to qualify you for work in a social welfare agency. To be a social worker you normally need at least a master's degree – which takes one or two years after a four-year bachelor's degree. A professional psychologist now requires a doctoral degree.

Other fields of interest

If there are fields which interest you other than those mentioned in this brochure, you might check the degree and diploma charts in *Horizons* or make inquiries at your local community college or university.

High school guidance offices usually have a lot of information about different career areas and you are welcome to drop in and browse. If you have the opportunity, check as well with someone in the field to get first-hand information. For instance, if banking interests you, go and talk to someone in the bank about the type of work you might like to qualify for. Ask your dentist how many years of training he needed. Many high schools, most community colleges and all universities now have computer facilities; perhaps your class can arrange a visit. And perhaps as well you can persuade your teacher to take a group of interested students to the local newspaper or

television station or to the district court house, to see the law in operation. It's your life you're planning, so it's worth taking a little trouble to explore some of the interesting possibilities.

Careers for women

Up until the present century most women considered that the only career open to them was in the home. But as more women have gone on to college and university, as modern technology has freed them from much household drudgery, and as women now live longer, they find that even after their families are grown up, they have many productive years to offer. It is no longer considered unfeminine to want to make a contribution to society outside the home. Today there are more women doctors, dentists, lawyers, professors, architects and engineers. Unfortunately, some prejudice still remains on the part of both men and women. Girls are readily accepted in office work, teaching and nursing, but there are still strong biases against women in executive positions in business, industry and government.

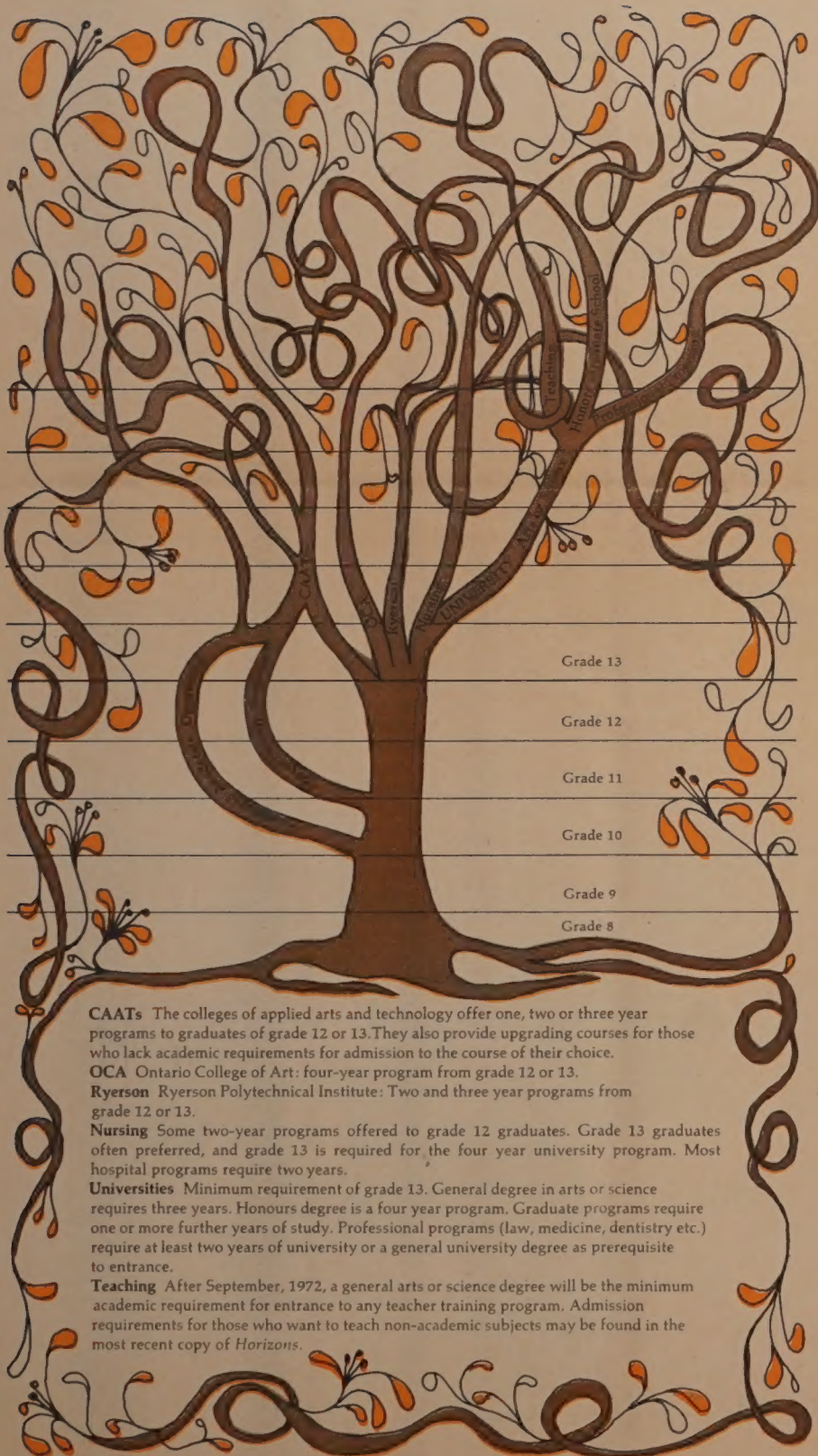
But don't let the fact that you're a girl put you off from going into a traditionally male field. You may have to work a little harder to win recognition and equal pay, but in these highly competitive days, *everybody* has to work a little harder to make it. And whether you are a girl or a boy, the object of your education is to make the most of your own individual talents.

High School Programs

The day has passed when a student in grade 8 has to choose a grade 9 academic, commercial or technical stream which can determine his future. During 1970-71, over half of Ontario's high schools are on the credit system which allows the student to qualify for a grade 12 graduation diploma by taking a minimum of 27 credits over a period of four years. By the 1971-72 academic year, 75% of Ontario high schools will be on the credit system, and by the following year, the old three-stream system will have been almost completely phased out. Under the credit system, the designations "two-year", "four-year" and "five-year" will no longer be used to describe specific programs, so that the student will not be automatically labelled so early in his high school career.

Grade 13 still means an extra year for most students. At this stage, it seems likely that completion of a full grade 13 program, leading to a Secondary School Honour Graduation Diploma, will continue to be the basic entrance requirement for university, but bright students in high schools with individual timetabling may be able to write off some of their grade 13 subjects in advance.





CAATs The colleges of applied arts and technology offer one, two or three year programs to graduates of grade 12 or 13. They also provide upgrading courses for those who lack academic requirements for admission to the course of their choice.

OCA Ontario College of Art: four-year program from grade 12 or 13.

Ryerson Ryerson Polytechnical Institute: Two and three year programs from grade 12 or 13.

Nursing Some two-year programs offered to grade 12 graduates. Grade 13 graduates often preferred, and grade 13 is required for the four year university program. Most hospital programs require two years.

Universities Minimum requirement of grade 13. General degree in arts or science requires three years. Honours degree is a four year program. Graduate programs require one or more further years of study. Professional programs (law, medicine, dentistry etc.) require at least two years of university or a general university degree as prerequisite to entrance.

Teaching After September, 1972, a general arts or science degree will be the minimum academic requirement for entrance to any teacher training program. Admission requirements for those who want to teach non-academic subjects may be found in the most recent copy of *Horizons*.

After High School

University is not the only choice after high school. There are several other types of institutions offering post-secondary education in Ontario, including community colleges, nursing schools, teachers' colleges, agricultural colleges, business schools and private trade schools. There are also highly specialized institutions such as Ryerson Polytechnical Institute and the Ontario College of Art. Following are the general admission requirements at the different types of post-secondary institutions. Interested students should check an up-to-date copy of *Horizons* for the most recent information on subjects required for the programs of their choice.

Universities

Ontario has sixteen universities, including the Royal Military College of Canada, which offer a wide range of degree and professional programs. At the present moment, students wishing to enter bachelor degree programs (first university degree) must have an average of 60% or better in a selection of grade 13 subjects. But an average of 60% does not mean automatic acceptance. Universities expect a higher average from students who have had to repeat grade 13 and will usually give preference to students with high standing rather than those with a borderline average. Specialized professional courses such as medicine, law and dentistry, where there is keen competition for places, may require a student to have a minimum of at least 70%. Students planning to go to university may also be expected to write a series of achievement and aptitude tests given through the secondary schools.

University information programs for senior secondary students are organized by most boards of education during the school year. Representatives of the different universities visit communities all across Ontario to talk to students, parents and teachers about the facilities and programs offered at their institutions. A secondary school liaison officer from the Department of University Affairs is also available to speak to students about financial assistance programs. You will be informed of these programs during your years at high school.

Colleges of applied arts and technology

Ontario has 20 community colleges with more than 40 campuses in all major economic regions of the province. The colleges of applied arts and technology are more job-oriented than the universities, and the value of diplomas or certificates from the CAAT's is increasingly being recognized by prospective employers. Apprenticeship and manpower retraining programs are also offered at the CAAT's. The community colleges are not meant to lead on to university, although there are a few cases in which promising graduates from a college of applied arts and technology are accepted into a related university program.

The Secondary School Graduation Diploma (grade 12) is the minimum requirement for admission to most community college diploma programs. However, a higher standing in certain subjects may be required for the three-year programs in particular. For specific information on the wide variety of programs offered, see the CAAT section of *Horizons*, consult the CAAT calendars in your high school guidance office or arrange to visit the community college in your area.

Royal Military College of Canada

RMC is basically a military college to educate and train engineering and other officers for the Canadian Armed Forces. Students who wish to attend must be male Canadian citizens between the ages of 16 and 21, single, physically fit, and must have successfully completed grade 13 in mathematics and science. Financial support through the Regular Officer Training Plan is available for promising students.

Ryerson Polytechnical Institute

Ryerson is the only polytechnical institute in Canada. Its graduates receive diplomas and certificates in a wide variety of programs.

In general, a Secondary School Graduation Diploma (grade 12) is required, with higher than minimum standard in certain subjects, depending on the program. Grade 13 is necessary for admission to courses in interior design, journalism, and radio and television arts. In these courses, and in the home economics program, there are only limited numbers of places available, so preference will be given to students with better grades.

Ontario College of Art

The Ontario College of Art offers four-year programs in the fine and applied arts leading to the A.O.C.A. diploma. Many O.C.A. graduates work in design and commercial art firms. Applicants must have at least the equivalent of the Ontario Secondary School Graduation Diploma (grade 12), and must pass the college admission test with good standing. There are always more applicants than there are places.

Teaching

To teach elementary school after 1973, one must have standing in grade 13, a university degree, and one year of teacher training either at a teachers' college or a university faculty of education.

To teach high school, the basic requirement is an approved university degree (preferably a four-year or honours degree) plus a year of teacher education at a university faculty or college of education.

Nursing

A Secondary School Graduation Diploma (grade 12) with at least two credit courses in science is the minimum requirement for admission to a school of nursing. A reasonable background in mathematics can also be helpful. Some schools require higher standing in certain subjects; some prefer – and the university degree programs require – grade 13 standing.

Accountancy

Students wishing to become certified accountants in business, industry or government must be employed in an accounting or financial position after high school and must pursue professional courses on a part-time basis at a university or community college or by correspondence. Certified General Accountants must have at least grade 12 to begin with; many have a university or college background. Grade 13, with emphasis on mathematics, is preferred for admission to the program for Registered Industrial Accountants. After 1971 the Institute of Chartered Accountants of Ontario will require applicants to have a university degree with the emphasis on business and related subjects. The University of Waterloo offers a special work-study program in this area.

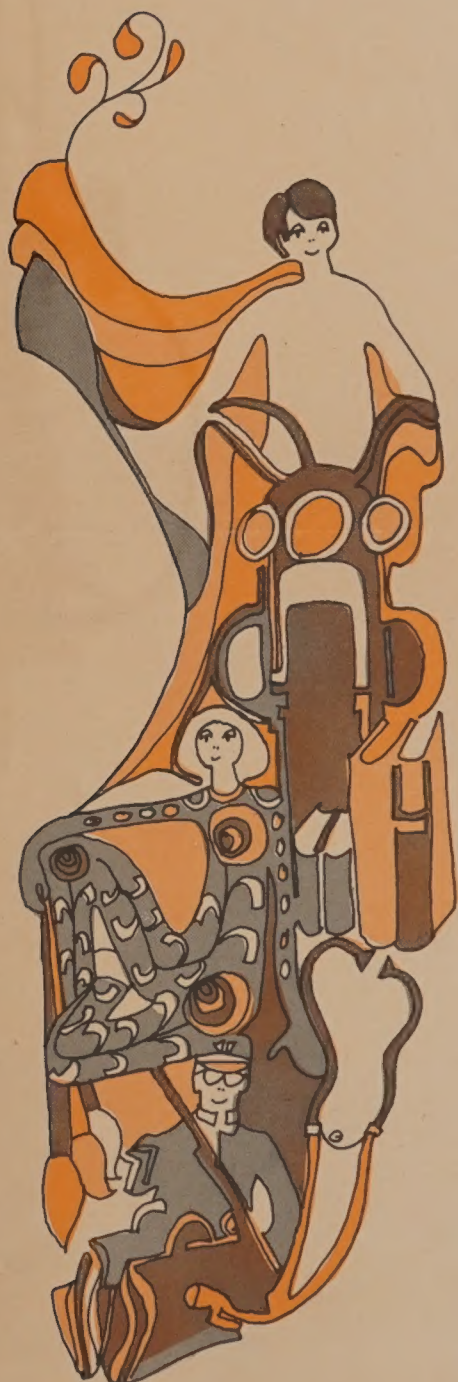
Costs of education

Apart from those attending private schools, there are no tuition fees in the high schools of Ontario. Text books are provided by the school boards, except for grade 13 students.

At the post-secondary level, education becomes more costly to the individual since tuition fees are normally required. These may vary from \$150 or \$200 per year for community college programs to more than \$500 a year for university programs. Details of students' costs can be obtained from university and college calendars or from *Horizons*.

Although most students live at home while attending college or university, this is not always possible. Besides tuition fees, a student attending a university away from home should consider the costs of residence or room and board. Residence fees may vary from \$850 to \$1,200, and usually include meals and linen. Because of the shortage of residence accommodation, many students live in co-operative houses, off-campus apartments, flats, private homes or boarding houses. One should allow \$15 to \$20 a week for room and \$15 to \$20 a week for food. Since the colleges of applied arts and technology are usually quite close to the communities they serve, they do not normally provide residence facilities.

College and university students may have to consider as well the cost of transportation, whether by bus or car pool; about \$150 per year for books; a student activity fee which may or may not be included with tuition; and a further \$6 to \$8 a week for incidental expenses. The annual costs may therefore vary from a bare minimum of about \$600 for a student attending a local community college and living free at home to \$1,800 to \$2,200 for a student attending university and living on campus. Nursing schools usually provide residence facilities free of charge and do not have tuition fees.



Financial aid

Many students now attending university or college would have been unable to do so twenty years ago because of the costs. Now students of ability are able to continue their education with the assistance of scholarships, loans and grants.

Scholarships and bursaries

Information about awards and scholarships administered by each university can be obtained from university and college calendars, from guidance offices at the high school, and from the Student Awards Officers of the various institutions. Industrial and veterans' organizations and service clubs and associations such as Kiwanis and Rotary also offer scholarships and bursaries to able students whose parents may have a limited income. Most universities have entrance scholarships for students with outstanding academic ability.

Ontario Student Awards Program

About two out of every five students enrolled in full-time post-secondary programs in Ontario are now getting financial help from the Ontario Government. The assistance can range from \$50 to \$2,000 or more for a year of study, depending on the income of the student's family. The main source of this money is the Ontario Student Awards Program (OSAP). At present, awards are granted to students on the basis of assessed need and are a combination of loan and grant. Financial assistance to Ontario students during 1970-71 totalled over \$80 million, approximately half in the form of grants and fellowships from the Provincial Government and half in the form of Canada Student Loans.

Although there may be some changes in Ontario's student aid program over the next few years, some form of financial help will continue to be made available to those who need it for their post-secondary education.

Further information about student aid programs can be obtained from your high school guidance office, from *Horizons* or from:

Information Branch
Department of University Affairs
Parliament Buildings
Queen's Park
Toronto

